

Serial No.: 10/032,023

Group Art Unit: 2823

REMARKS*Claim Rejections - 35 USC §103*

Claims 1-20 are rejected under 35 USC §103(a) as being unpatentable over applicant's admitted prior art of this application (hereinafter AAPA) in view of Lim et al. (U.S. Publication 2002/0171083, hereinafter "Lim").

AAPA discloses that an image sensor and method of manufacture therefor includes a substrate having pixel control circuitry. Dielectric layers on the substrate include interconnects in contact with the pixel control circuitry and with pixel electrodes. An intrinsic layer is over the pixel electrodes and has a gap provided between the pixel electrodes. An intrinsic-layer covering layer is over the intrinsic layer and a transparent contact layer over the intrinsic-layer covering and the interconnects. [FIG. 1 (PRIOR ART)]

Lim apparently discloses a thin film transistor array substrate and manufacturing method therefor having the large storage capacitance for use in a liquid crystal display device. The capacitor electrodes and the insulation layer are a dielectric layer so that the thickness of the dielectric layer becomes thinner and, therefore, much more electric charges can be stored in the storage capacitor. That means the liquid crystal display device can have a high picture quality and a high definition. Moreover, the present invention has a structure that can achieve the high manufacturing yield. [Lim Abstract]

In re claims 1, 6, 11, and 16, Applicants respectfully traverse the rejections since the Applicants' claimed combination, as exemplified in claim 1, includes the combination limitations not disclosed in the combination of AAPA or Lim of:

"providing a substrate;  
forming control circuitry on the substrate;  
forming dielectric layers on the substrate;  
forming interconnects in the dielectric layers in contact with the control circuitry;  
forming pixel electrodes in contact with the interconnects;  
forming an intrinsic layer (i-layer) over the pixel electrodes;  
forming a gap in the i-layer between the pixel electrodes;  
forming an i-layer covering layer over the i-layer; and  
forming a transparent contact layer over the i-layer covering layer and the interconnects."

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The Examiner states the reason for combining the teaching of AAPA and Lim:

"...to enable the gap in the i-layer between the pixel electrodes of AAPA to be formed and furthermore to obtain a device which has the high picture quality and high definition (page 2, paragraph [0025])." [underlining for clarity]

It is respectfully submitted that AAPA taken as a whole teaches and suggests a pixel sensor or light detector while Lin taken as a whole teaches and suggests a liquid crystal display or light transmitter. The references, taken as a whole, perform diametrically opposing functions of sensing and transmitting light. Thus, each of the two references taken as a whole teach away from each other and, in *In re Keller* at 642 F.2d 425, the court stated with regard to 35 U.S.C. §103:

"...the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art."

It is also respectfully submitted that the combine teachings of a light sensor combined with a light transmitter would not have suggested the claimed invention.

In addition, the combination would provide a seemingly inoperative device due to their opposing functions and, in *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984), the CAFC stated:

"We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a prima facie case of obviousness... If references taken in combination would produce a "seemingly inoperative device," we have held that such references teach away from the combination and thus cannot serve as predicates for a prima facie case of obviousness."

It is further respectfully submitted there appears to be no teaching or suggestion for the combination in either reference since the reasons given by the Examiner of "enable the gap...to be formed" is not a reason for combining the teachings but a result. The Examiner's reason "to obtain a device which has the high picture quality and high resolution" appears to be directed to a display rather than a sensor. In *In re Sang-Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), the CAFC held that the conclusion of obviousness may not be made from common knowledge and common sense of a person of ordinary skill in the art without any specific hint or suggestion in a particular reference.

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In re claims 3, 8, 13 and 18, these dependent claims respectively depend from independent claims 1, 6, 11, and 16, and are believed to be allowable since they contain all the limitations set forth in the independent claim from which they depend and claim additional unobvious combinations thereof.

In re claims 5, 10, 15 and 20, these dependent claims respectively depend from independent claims 1, 6, 11, and 16, and are believed to be allowable since they contain all the limitations set forth in the independent claim from which they depend and claim additional unobvious combinations thereof.

Based on the above, it is respectfully submitted that claims 1-20 are allowable under 35 USC §103(a) as being unobvious over AAPA in view of Lim.

#### *Conclusion*

In view of the above, it is submitted that the claims are in condition for allowance and reconsideration of the rejections is respectfully requested. Allowance of claims 1-20 at an early date is solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including any extension of time fees, to Deposit Account No. 50-1078 and please credit any excess fees to such deposit account.

Respectfully submitted,



Mikio Ishimaru  
Registration No. 27,449

The Law Offices of Mikio Ishimaru  
1110 Sunnyvale-Saratoga Rd., Suite A1  
Sunnyvale, CA 94087  
Telephone: (408) 738-0592  
Fax: (408) 738-0881  
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